Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

ive
267
22.82

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
WASHINGTON 25, D. C.

In cooperation with State, Federal, and Other Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 22, 1949
(Sixth Cotton Insect Survey Report for 1949)

Weather conditions in the 12 States where the boll weevil occurs have varied greatly in different localities during recent weeks. In gemeral conditions have been favorable for cotton and also for the boll weevil. Hot, dry weather has helped to hold down the weevils in some areas. Insecticides have been more widely used than in any previous year. High fertilization and adequate rainfall have caused excellent plant growth. Reports indicate prospects for good cotton crops in many areas even in the presence of heavy weevil infestations.

Thousands of bales of cotton can be saved during the next month by protecting the bolls from weevils by the proper use of insecticides. Calcium arsenate has long been used for this purpose.

INSECTICIDES

ALABAMA: Calvin M. Jones writes: "Small quantities of calcium arsenate, toxaphene, and BHC-DDT mixtures have been available from time to time in all of the counties. The supply is still far short of the demand. Some farmers contacted have not bought insecticides but plan to and dust as soon as the weather permits."

ARIZONA: W. A. Stevenson telegraphed on July 27 that the insecticide situation is very tight. He mentioned several formulations that are urgently needed in connection with cotton insect control.

LOUISIANA: L. D. Newsom reported that one of the largest cotton planters in the Shreveport area had been unable to obtain insecticides. "It was thought that the situation was not quite so critical as the insecticide companies had indicated. It appears though that the shortage is real. If there is anything which may be done towards alleviating the shortage, such steps should be taken immediately. A large percentage of the cotton in this area will at least need boll protection."

MISSISSIPPI: E. W. Dunnam, Stoneville, states, "The tight insecticide situation is letting up to a slight extent. Reports indicate that insecticides are moving in this direction."

Clay Lyle reported that some counties were receiving limited supplies of formulation containing organic insecticides, while others are using calcium arsenate. Efforts are being made to have supplies of nicotine, benzene hexachloride, and parathion available for prompt use if destructive infestations of aphids develop following the use of calcium arsenate. He emphasizes the need for immediate poisoning in many fields to set the crop during the next two weeks, stating that the percentage set after that time will be small and subject to heavy insect attacks.

SOUTH CAROLINA: "All cotton farmers are urged to protect their top crop of bolls until they are at least three weeks old. Where cotton is rank it may take 12 to 14 pounds of poison per acre per application to thoroughly cover the plants.

"Those farmers not able to get organic poisons in sufficient quantities to last the rest of the season are reminded that alternate applications of calcium arsenate and BHC DDT are recommended, provided that it is used in the Piedmont or on a clay or

black soil." (L. M. Sparks, Jr. in the S. C. Boll Weevil Infestation Report for the Week Ending July 16)

TEXAS: C. R. Parencia, Jr., Waco, reports: "Shortages appear to be confined to local areas in the state at this time. Serious shortages could develop in the future. Shortages of certain insecticide formulations were reported by W. L. Barron in Bell, Ellis, and Williamson Counties."

BOLL WEEVIL

VIRGINIA: J. O. Rowell, Extension Entomologist, wrote that on July 11 and 12 that no boll weevils were found in 15 fields examined in Mecklenburg, Sussex, Surry, Isle of Wight, and Brunswick Counties. In Greensville County 2 fields examined were free of weevils, and 2 fields had 6% and 8% of the squares punctured. Three fields in Southampton County had 3%, 6%, and 7% of the squares punctured. In Nansemond County the infestations in the 4 fields examined ranged from 14 to 18% punctured squares.

G. M. Boush, Assistant Entomologist, Holland, reported that in 8 fields examined on July 19/Nansemond County the infestations ranged from 4 to 21% with an average of 12% punctured squares.

NORTH CAROLINA: Boll weevils were found in all of the 38 fields examined in 8 counties with an average infestation of 54% punctured squares in the fields examined as compared with 25% last week. Thirty-one of the 38 fields examined had more than 50% of the squares punctured. In Hoke and Robeson Counties more than 80% of the squares examined had been punctured by the boll weevil. In Cumberland, Scotland, and Wayne Counties more than 70% had been punctured. In Sampson County 60% of the squares were punctured, and in Harnett County 54% were punctured. In Wake County the average was 11% punctured squares, but 2 of the 6 fields examined had more than 50% of the squares punctured. Conditions in general were very favorable for the boll weevil. The report on cotton insects for the week ending July 22, issued by the Extension Service at Raleigh, stated: "One field in Sampson County reported as having a 15% infestation on July 15 is now reported as having an infestation of 52.0%, despite the fact that a bug-catching machine has been over this field three times. Another field in Harnett County had an infestation of 35% in early July and since then it has been dusted. On July 22 this Harnett County field was reported as having an infestation of 15%." A comparison of the past week's infestations with the same fields during the previous week indicates that 2 fields in Wake County that averaged 21% on July 15 averaged 55% on July 22. In Harnett County the jump was from 23 to 60% punctured squares in 1 week. In Cumberland County the jump was from 33 to 77%; in Sampson County from 29 to 60%, and in wayne County from 21 to 72%.

SOUTH CAROLINA: Mild temperatures and local rains over most of the State were favorable for weevil development and infestations continued to increase. The average weevil infestation in 62 unpoisoned fields in 19 counties was 72% punctured squares as compared with 21% in 33 poisoned fields in 17 counties. Of the 66 unpoisoned fields examined 57 had more than 50% punctured sqaures. In the 33 poisoned fields the infestation ranged from 1 to 10% in 2 fields, from 11 to 25% in 22 fields, from 26 to 50% in 8 fields and in 1 field in Orangeburg County more than 50% of the squares were punctured.

"Though there had been some previous evidence of weevil movement from one field to another, there was unmistakable evidence of this type of activity on a wide scale throughout the week. Square infestations are mounting rapidly in dusted as well as undusted fields. In undusted fields a very high percentage of the bolls is being damaged by the weevil. In two such fields only 4.4% and 13.5% of the bolls were free of weevil injury." (J. G. Watts, July 23)

L. M. Sparks, Jr., Extension Service, reported for the week ending July 23 that boll weevils were found in 150 of the 151 fields examined in 31 counties. Sumter County had 1 field in which no weevils were found. In the fields that had been treated with insecticides there was an average of 31% punctured squares. In the unpoisoned fields the average was 50% punctured squares.

Mr. Sparks wrote: "After almost three weeks of rainy weather the sun again began to shine during the latter part of last week and the cotton farmers were again able to get into their fields with dusters. Much of the cotton in the state was poisoned during the week and with the easing of the insecticide situation a serious weevil build-up can be lessened, provided dusting is resumed immediately. The boll weevils are moving from field to field in most counties east of Columbia and an increase in weevil activity has been noted in those counties in the central part of the state. Protect those bolls until they are at least 21 days old, after that the chances are that they will not be damaged."

GEORGIA: Cotton is maturing and very few squares are present in the southern section of the Coastal Plain. Weevils are not migrating in this area and poison should be applied to protect the bolls that are set from weevil damage. The weevil infestation is high in all sections of the State. Punctured squares were found in all of 446 fields examined in 11 counties except 1 field in Ware County. The infestations ranged from 1 to 10% in 41 fields, from 11 to 25% in 136 fields, from 26 to 50% in 107 fields and in 161 fields more than 50% of the squares were punctured.

FLORIDA: P. W. Calhoun, Gainesville, wrote on July 22 "Between Madison and Gainesville weather conditions have been more spotted than usual, and it is safe to assume that boll weevil conditions are likewise spotted. Weevil infestation from Madison southward is above average with an occasional heavily infested field. Weather conditions now are favorable for weevil damage."

ALABAMA: Boll weevils were found in all of the 59 fields examined in 11 counties, Bullock, Clarke, Conecuh, Covington, Crenshaw, Escambia, Lowndes, Macon, Monroe, Pike, and Wilcox, with an average of 53% of the squares punctured. Only 12 fields had less than 25% of the squares punctured and 19 fields had more than 76% punctured squares.

Calvin M. Jones states "The majority of the farmers are dusting as the weather permits A few of the heavy infestations were found in fields that had been dusted as regular as possible for as many as five times. The rains had interfered with the effectiveness of these dustings. The low infestations were in fields that had been dusted at least three times with all of the applications remaining on long enough to be reasonably effective."

MISSISSIPPI: Clay Lyle, Entomologist, reported on July 25: "Frequent rains, high boll weevil infestations in most unpoisoned fields, and a shortage of poison were discouraging factors in the cotton situation the past week." Weevils were found in 366 of the 385 fields examined in 52 counties with an average infestation of 34% punctured squares which compares to 28% last week and 16% a year ago at the present time. Dr. Lyle states, "Poisoning continued to show fine results. In Attala County poisoned fields averaged 8% infestation, and unpoisoned fields 57%. In Lee County 48 poisoned fields averaged 5% punctured squares while 2 unpoisoned fields had 79% and 80% punctured squares." On many Delta farms the weevil situation is still critical. Weevils were found in 185 of the 197 Delta fields examined in 18 counties with an average of 31% punctured squares in the infested fields, as compared with 21% during the previous week. Fifty-four fields with more than 40% punctured squares were reported from Bolivar, Coahoma, De Soto, Holmes, Humphreys, Issaquena, Leflore, Panola, Sharkey, Sunflower, Tallahatchie, Tate, Tunica, Warren, and Yazoo Counties. However, 12 fields were examined in which no boll weevils were found. In 44 fields the

infestation did not exceed 10% punctured squares, and in another 47 fields the infestation did not exceed 25% punctured squares.

The Delta and Pine Land Company in Bolivar County reports that weevils were found in 331 of 346 fields examined. In 108 infested fields not more than 10% of the squares were punctured. In 98 fields the infestation did not exceed 25%. In 87 fields it ranged between 26 and 50%, and in only 38 fields were more than 51% of the squares punctured.

B. J. Young states, "Infestation percentages have increased during past week due mainly to frequent showers and very unfavorable weather for dusting. Some fields seem to indicate that possibly the general migration had commenced. Practically every field of older cotton shows heavy infestation."

LOUISIANA: Weather conditions continued very favorable for weevil development in most areas and infestations increased in many fields. The average boll weevil infestation in 494 fields in 19 parishes was 26% punctured squares as compared with 18% the previous week and 20% during the same week in 1948, 21% in 1947, 49% in 1946, 28% in 1945, 15% in 1944, and 19% in 1943. No punctured squares were found in 8 of the 494 fields examined. The infestation ranged from 1 to 10% in 120 fields, from 11 to 25% in 174 fields, from 26 to 50% in 129 fields, and more than 50% of the squares were punctured in 63 fields.

ARKANSAS: Charles Lincoln, Extension Entomologist, wrote on July 22: "In Conway, Pope, Yell, Logan, and Franklin Counties the week of July 18 boll weevil infestation ranged from 42 to 100% in undusted cotton. There is a record amount of dusting. Control is excellent from correctly times applications of all recommended materials. Weevils of the first generation are still emerging in numbers. Infestations continu to rise in many fields. Pupae and adults of the second generation were observed Thursday, July 21, in one field of cotton in Franklin County. This field began squaring about May 25. Second generation adults are expected to begin emerging in many fields of old cotton the week of July 25. This is the migratory brood. Genera migration may begin any time after August 1. This migration will infest many fields that have been clean or only lightly infested. The range of this flight cannot be predicted but it may be for 25 or more miles. All fields should be scouted frequent both for resident and migratory weevils. Results this year fully demonstrate that good scouting is the key to boll weevil control."

The average boll weevil infestation in 66 fields in 6 southeastern counties was 43% punctured squares as compared with 29% the previous week. The average infestation on this date was 8% in 1948, 38% in 1947, 15% in 1946, 14% in 1945, 2% in 1944, and 7% in 1943. Boll weevil punctured squares were found in 64 of the 66 fields examine The infestation ranged from 1 to 10% in 5 fields, 11 to 25% in 10 fields, from 26 to 50% in 27 fields, and more than 50% of the squares were punctured in 22 fields.

The average infestation in 278 fields in 3 southwestern counties, 22% of the 278 fields examined, 277 were infested. The infestation ranged from 1 to 10% in 76 fields, from 11 to 25% in 121 fields, from 26 to 50% in 55 fields, and more than 50% of the squares were punctured in 25 fields.

TEXAS: Continued showers and rains in many areas of the State were favorable for development of cotton insect pests. Boll weevil infestations continued to increase in central and northern areas. Control measures are needed in many fields, particularly in bottom land fields where cotton in making rank growth. The average boll weevil infestation in 701 fields in 40 counties was 15% punctured squares as compared with 12% last week and 20% at this date last year. There was an increase in boll weevil infestation in most late-planted fields in central Texas. The average

infestation in 139 fields in McLennan and Falls Counties was 26% ranging from 1 to 82%, as compared with 18% the previous week.

OKLAHOMA: The weather was hot and dry over much of the cotton-producing areas of the State. Temperatures of 100° or more were recorded at a number of stations. Cotton in many fields threughout the southeastern counties is suffering from lack of moisture. On account of the rank growth of cotton in many fields the high temperature is not reducing the number of emerging weevils to any great extent. The average boll weevil infestation in 117 fields in 18 counties was 13% punctured squares. No punctured squares were found in 51 of the fields examined. In 23 fields the infestion ranged from 1 to 10%, in 20 fields from 11 to 25%, in 14 fields from 26 to 50%, and in 9 fields more than 50% of the squares were punctured.

BOLLWORM

TEXAS: Light to severe bollworm damage has been reported from the upper coastal, south central, and central areas. There were considerable egg deposition and hatch of young larvae in some fields of succulent cotton in the Waco area during the week. Examinations made in 131 fields showed an average of 3.2 eggs and 3.3 larvae per 100 terminals. Bollworm-injured squares averaged 2.5% in 101 fields. Unless control measures are used, considerable damage may be expected in these fields.

L. F. Greer submitted lepidopterous larvae collected from cotton on July 18-20. The specimens collected in Calhoun and Fort Bend Counties were all determined as the bollworm, Heliothis armigera (Hbn.). Twelve of the specimens submitted from Victoria County proved to be Heliothis armigera (Hbn.), and there was 1 tobacco budworm, Heliothis virescens (F.). From Brazoria County there were 7 specimens of the bollworm, Heliothis armigera (Hbn.) and 3 of the tobacco budworm, Heliothis virescens (F.

OKLAHOMA: Bollworm eggs can be found in all fields of cotton in the eastern half of the State, and worms vary in size from those just hatched to three-fourths grown.

ARKANSAS: In the Valley above Little Rock occasional fields require bollworm control. Dusting that destroyed natural enemies prior to hatching of bollworm eggs has caused these outbreaks. (Charles Lincoln, July 22)

SOUTH CAROLINA: In general bollworms have caused little damage to cotton; however, one grower in Dorchester County reported serious injury.

ARIZONA: W. A. Stevenson telegraphed on July 27 "Indications are for continued heavy infestation of bollworm."

COTTON LEAFWORM

TEXAS: No additional specimens of the cotton leafworm have been received, and there have been no reports of its occurrence. The cotton leafworm reported on July 18 from Calhoun County, Texas, was submitted by L. F. Greer and his determination was verified by H. W. Capps.

COTTON FLEAHOPPER, TARNISHED PLANT BUG, RAPID PLANT BUG, AND OTHER MIRIDS

TEXAS: Cotton fleahopper infestation is light in the southern half of the State but they are causing damage in some sections in the northwest, north plains, and south plains areas. In the examination of 643 cotton fields in 50 counties there was an average of 4.9 fleahoppers per 100 terminals as compared with 5.6 last week. In 250 fields no fleahoppers were found, in 288 fields the infestation ranged from 1 to 10; in 89 fields from 11 to 25; in 14 fields from 26 to 50; and in 2 fields more than 50 fleahoppers were found per 100 terminals.

OKLAHOMA: Cotton fleahoppers are appearing in damaging numbers in some fields in Beckham, Greer, Jackson, Tillman, and Cotton Counties. In the examination of 118 fields in 18 counties there was an average of 6.7 fleahoppers per 100 terminals. No fleahoppers were noted in 50 of the fields examined. The infestation ranged from 1 to 10 in 38 fields, from 11 to 25 in 24 fields, and in 6 fields more than 50 fleahoppers per 100 terminals.

ALABAMA: Nymphs and adults of the rapid plant bug were reported as present in many fields that have not been dusted since the recent period of daily rains began.

MISSISSIPPI: In the examination of 197 Delta cotton fields rapid plant bugs were noted in 27 fields, tarnished plant bugs in 8 fields, cotton fleahoppers in 2 fields, and another mirid, Neurocolpus nubilus in 9 fields.

MISCELLANEOUS INSECTS

ARKANSAS: Cotton aphids were observed increasing slowly following 3 applications of calcium arsenate. So far this does not look like an aphid year. (Charles Lincoln, July 22)

ALABAMA: Calvin M. Jones reported damage to some squares and a few grown bolls by lepidopterous larvae in 11 counties in southern Alabama. The grape colaspis, Colaspis flavida, was reported as causing some damage to leaves and squares of cotton in Bullock and Macon Counties.

Calvin M. Jones reported on July 22 that light infestations of aphids were present in all cotton fields that had been dusted with calcium arsenate without alternate applications of calcium arsenate-nicotine dusts.

ARIZONA: In the Cotton Insect Report for the week ending July 16, J. N. Roney, Extension Entomologist, states: that the oblique-bandit leaf roller, Archips rosaceana (Hawr.) was injuring cotton rather severely in spots in the Magna District of Pinal County. He suggested dusting with a mixture containing 10% DDT and 50% sulfur.

W. A. Stevenson telegraphed on July 27 "Indications are for continued heavy infestations of stink bugs."

GEORGIA: Aphids are present in most fields. A few show moderate to heavy infestations but most are classed as "present" or "light".

LOUISIANA: Cotton aphids have been reported in many fields, but only a few serious infestations have been noted.

MISSISSIPPI: During the week B. J. Young, Scott, reported grasshoppers in 7 cotton fields, bollworms in 3 fields, cutworms in 2 fields, and aphids in 1 field.

SOUTH CAROLINA: Red spider activity continues to increase. Some younger cotton may sustain loss in yield if control is not undertaken, but a good bit of the crop is mature enough so that the red spider is of little concern. (J. G. Watts, July 23)

TEXAS: Among the insects taken from cotton and submitted recently for determination were the cotton square borer, Strymon melinus (Hbn.), collected in Falls County, Texas, on July 1, by C. R. Parencia, Jr.; the yellow striped armyworm or cotton boll cutworm, Prodenia ornithogalli (Guen.), taken by G. E. Orr in Dawson County, Texas, on July 1; and the pink bollworm, Pectinophora gossypiella (Saund.), collected in Kleberg County on June 21, by L. F. Greer. (Determinations by H. W. Capps)

Quentin Adams, Pecos, submitted lepidopterous larvae feeding on cotton near Bakersfield, Pecos County, on June 7. Eight of the "worms" submitted proved to be the beet armyworm, Laphygma exigua (Hbn.), and three were the bollworm, Heliothis armigera (Hbn.). (Determined by H. W. Capps)

INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

ARIZONA: Cotton dusting and spraying continued on a large scale throughout the Salt River Valley. The injurious insect populations increased in most areas where control measures are not being applied. Stink bug populations increased in most fields in Mesa, Lehi, Gilbert, and Scottsdale areas. Small bollworms are appearing in many fields throughout the Valley. In Pinal County most of the cotton continued to make rapid growth but some fields are shedding considerable forms on account of water stress. The injurious insect populations have been reduced in most areas with insecticides. In Yuma County the injurious insects averaged 9.8 insects per 100 net strokes, and Cicada (Locust) were present in all fields. This insect is causing some damage by depositing their eggs in the cotton stems, causing some of them to die. The injurious hemipterous insects are still abundant in a few fields in the Santa Cruz Valley that have not been poisoned. Bollworms are becoming a serious threat in some of the earlier dusted fields and dusting for their control is underway. Dusting is becoming general in the Safford Valley for hemipterous insect control. Bollworms are also appearing in this area and stink bug populations are increasing.

NEW MEXICO: W. B. Rogers reported July 20: "The injurious Homiptera decreased considerably in the Pecos Valley during the week. Bollworms are still general over the Valley but not serious. Some aphids are still present. Dusting is still underway where needed."

CALIFORNIA: Excerpts from letters from Gordon L. Smith, Assistant Entomologist, University of California, Berkeley: "So far there has been no shortage of insecticides. Dusting by aircraft for pests of young cotton is not effective. Spraying gives better results on young cotton but there has been very little need of insect control on cotton before mid-June.

"We have three entomologists employed by grower cooperative groups and two employed by ginning companies to give personal field control advice this year. In the long run this will lead to better and more practical control of cotton insects. The proper timing of applications seems very difficult for those who have no entomological training.

"The injurious insects of cotton for the season has been predominently Lepidopterous including the bollworm, Heliothis armigera; the beet armyworm, Laphygma exigua; the yellow striped armyworm, Prodenia praefica; the alfalfa looper, Autographa californi and the salt-marsh caterpillar, Estigmene acrea.

"The first three have been sufficiently injurious in some fields to require insecticide applications. The beet armyworm was late enough so that it was not so serious as it frequently is on young cotton. There have been two broods of the yellow-striped armyworm mostly on alfalfa from which it migrated to cotton when the hay was cut. The second brood was so large throughout the valley that some left alfalfa before it was cut. Expect another large population of these worms in August as there is no indication that biological factors will reduce the next brood."

PREPARED JULY 29, 1949